



# WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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## Vegetables

**Vegetable Insects** - *Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)*

### Cabbage.

Economic levels of diamondback and cabbage looper larvae continue to be found in fall cabbage. A treatment is recommended when 5% of the plants are infested with larvae. Avaunt, Bts, Proclaim or Spintor will provide control of both species.

### Cucurbits.

Continue to watch for an increase in aphid populations, especially in seedling stage cucumbers and pickles. A treatment should be applied if 20% of the plants are infested and before significant leaf curling occurs. Actara, Fulfill, Lannate or Thiodan should be used.

### Lima Beans.

Corn earworm can now be found in the earliest planted lima beans. As soon as pin pods are present, you should sample for earworm, lygus and stinkbugs. A treatment should be applied if you find one corn earworm per 6 foot of row or 15 tarnished plant bugs and/or stinkbugs per 50 sweeps. Lannate or Capture can be used to control all 3 insects on lima beans.

### Peppers.

At the present time, all peppers should be sprayed on a 7-day schedule for corn borer, corn earworm and pepper maggot control.

### Snap Beans.

All processing snap beans in the bud and pins stages should be treated with Orthene for corn borer control. Since corn earworm catches have increased in blacklight and pheromone traps, the addition of Asana or Capture at the pin spray will also be needed. At the present time, a third treatment with Asana, Capture or Lannate will be needed within a week of harvest except in the Laurel and Seaford areas where 2 sprays will be needed between pin and harvest. At this time of year, population pressure can increase rapidly so be sure to check local trap catches, which are updated on the IPM website three times per week (<http://www.udel.edu/IPM/traps/latestblt.html>). All fresh market snap beans should be sprayed on a 7-day schedule with Lannate or Capture. We are also seeing an increase in thrips and leafhoppers in late-planted snap beans. A treatment should be applied if you find 5-6 thrips per leaflet or 5 leafhoppers per sweep. Although there is no threshold for the number of leafhoppers per leaflet, a treatment should be applied if you can easily find nymphs.

### Spinach.

Fields should be scouted at emergence for webworm and beet armyworm larvae. Controls should be applied when worms are small and

before they have moved deep into the hearts of the plants. Since Lannate cannot be applied before plants are 3-inches in diameter, Ambush, Pounce, Confirm (6-8 oz/acre) or Spintor (4-8 oz/acre) should be used. Generally, at least 2 applications are needed to achieve control of webworms and beet armyworm.

### **Sweet Corn.**

All fresh market silking sweet corn should be sprayed on a 3 day schedule throughout the state. The first silk spray is often the most critical. This spray should be applied as soon as ear shanks are visible. At this time, if you are using Lannate for aphid or fall armyworm control, it should only be used in combination with the highest labeled rate of a pyrethroid.



**Vegetable Diseases** - - Bob Mulrooney, Extension Plant Pathologist; [bobmul@udel.edu](mailto:bobmul@udel.edu)

### **Beans.**

After all the rain we had **Pythium pod rot and white mold** are present in many fields. With the soil as wet as it is, if bloom occurs during this period apply fungicide sprays to control white mold. If soil is wet for 6-10 days before bloom for snapbeans and 70-80 percent of the plants have one or more open blossoms, apply Ronilan (snaps only), Rovral, Benlate or Topsin plus a spreader sticker for control. Repeat 5-6 days later if the soil is still wet and open blossoms are still present.

Conditions are also favorable for **downy mildew** on baby limas. Protect susceptible varieties with fixed copper at 2.0 lbs/acre.

**Snapbean rust** can be a problem in the fall on susceptible varieties. Apply chlorothalonil (Bravo, Equus) or Nova every 7 days for control.

### **Pumpkins.**

Powdery mildew is present in many fields. When powdery first appears is the time to add Nova to the Bravo spray. Alternate with Quadris or Flint to maintain healthy foliage. Ground applications are highly recommended to protect leaves within the canopy. Fungicide applications are necessary in our region to produce quality fruit with good handles. If **Phytophthora fruit rot** has occurred in the past, add Acrobat 50WP to the spray mix. A section 18 is in effect for Delaware, Maryland and New Jersey for this use.



**Dry Weather and New York State-** Ed Kee, Extension Vegetable Crops Specialist; [kee@udel.edu](mailto:kee@udel.edu)

Reports from New York State say unprecedented dry weather will reduce the processing sweet corn pack to 60 to 70% of normal and the green bean pack to 75-80% of normal. Most of their acreage is non-irrigated.



**Vegetable Diseases** - *Kate Everts, Extension Vegetable Pathologist, University of Delaware and University of Maryland; [everts@udel.edu](mailto:everts@udel.edu)*

## MELCAST for Watermelons

EFI Values (Environmental Favorability Index)

Do not use MELCAST if there is a disease outbreak in your field, it is a **preventative program**. Any questions, please call David Armentrout at (410) 742-8788 or e-mail: [da88@umail.umd.edu](mailto:da88@umail.umd.edu)

Location	8/8	8/9	8/10	8/11	8/12	8/13	8/14	8/15
Bridgeville, DE	0	1	1	6	8	5	8	1
Laurel, DE (Collins Farms)	3	1	1	7	7	5	6	4
Galestown, MD	3	2	1	7	8	5	6	4
Georgetown, DE			8	7	8	5	8	2
Hebron, MD	4	2	1	7	7	6	6	4
Salisbury, MD	0	1	0	6	7	6		
Laurel, DE (Vincent Farms)	0	0	1	6	7	6	7	3

Watermelon Fields should be sprayed with a fungicide when 30 EFI values have been accumulated by the weather station nearest your fields. Add 2 points for every overhead irrigation. After a fungicide spray, reset your counter to 0 and start over. If a spray has NOT been applied in 14 days, apply a fungicide and reset the counter to zero. The first and last day above can be partial days so use the larger EFI value of this report and other reports for any specific day

More detailed information concerning MELCAST and sample data sheets are available on the web at <http://www.agnr.umd.edu/users/veg/disease/veg/disease.htm>. . ❖



## Field Crops

**Field Crop Insects** - *Joanne Whalen, Extension IPM Specialist; [jwhalen@udel.edu](mailto:jwhalen@udel.edu)*

### Soybeans.

The first corn earworm larvae have been found in soybeans in Kent County, Delaware and the lower Eastern Shore of Maryland. Populations are low and larvae are less than 1/2-inch in size. Our Delaware corn survey, as well as the Virginia corn survey, indicated low infestation levels. However, migratory populations could still result in economic levels in our soybean fields. The treatment threshold is 3 per 25 sweeps in narrow fields and 5 per 25 sweeps in wide row fields. The recent wet and humid weather could help to keep populations in check like last year. When possible, treatment should be delayed until 1/3 of the

population is 3/8 inch in size. Also, be sure that you do not treat for spider mites just because you see damage. In many cases, old damage can be found but the mites have been killed by predators or fungal pathogens. No controls are needed unless you find 20-30 mites per leaflet.



**Field Crop Diseases** - - *Bob Mulrooney, Extension Plant Pathologist; [bobmul@udel.edu](mailto:bobmul@udel.edu)*

### Corn.

While looking for diseases for the recent Crop Diagnostic Field Day, several were identified and are increasing now that corn is maturing.

**Common rust and smut** were seen and are not causing yield damage. One leaf disease that was seen was **anthracnose leaf blight**. Look for browning leaf tips on the lower leaves and oblong

brown spots. Symptoms can vary greatly with the different hybrids, but the fungus produces very small black hairs in the dead tissue that are very diagnostic for anthracnose. In itself, anthracnose leaf blight is not that important, but could indicate a possible problem with anthracnose stalk rot later. Scout fields and check for stalk strength as harvest nears. **Southern corn leafblight** was also identified at low levels.

### **Soybeans.**

The heavy rains and standing water has been ideal conditions for **Phytophthora rot**. Large plants have blackened stems progressing many nodes up the stem. Symptoms can vary somewhat if the variety has some resistance. Dead plants occur in areas that remain wet for long periods.

**Soybean cyst nematode** has not disappeared. I saw a field with plants of uneven height in large patches, which were infected with SCN. The white females could be seen on the roots.



### **Pasture Walk – Deciding On Renovation -**

*Richard W. Taylor, Extension Agronomist;*  
[rtaylor@udel.edu](mailto:rtaylor@udel.edu)

Last week, I wrote about clipping pastures to improve forage quality. Another byproduct of this process is to clean away old mature forage and weed growth and permit the forage manager to survey the condition of the pastures. Along those lines, I suggest that crop advisers/consultants and on-farm pasture managers use the next week to conduct a personal pasture walk on the clients' pastures or their own fields.

For your pasture walk, take along pencil and paper to make notes or, if you have a GPS unit that permits you to survey fields and make notes, take that along. Another useful item would be a grass and legume key to help you identify forage species if you are not comfortable with their identification. A weed identification book will come in handy, too. If you have deer around, take

precautions against deer ticks to prevent the possibility of contracting Lyme's disease. The use of insect repellants will also prevent problems with chiggers, mosquitoes, and other ticks and make your walk more enjoyable if not more productive. One last item to take is a checklist of what species you expect to find in the pasture. If you know what species were planted, use that list or otherwise make up a list such as the following: orchardgrass, tall fescue, timothy, Kentucky bluegrass, reed canarygrass, common wiregrass (also called common bermudagrass), crabgrass species, fall panicum, foxtail species, other annual grasses, white clover, red clover, alfalfa, lespedeza species, vetches, broadleaf weeds (you can list individual species or just lump them together), sedges, shrubs/trees (I would include multiflora rose, brambles, trumpet creeper, cedars, and other trees in this category).

As you walk the pasture, try to estimate the percentage of each item on your checklist as well as add anything to it that you feel is important to accessing the health and productivity of your pasture. You will also want to estimate the area involved and make note of the location of any bare spots in the pasture. Also, note if the animals have tended to congregate in a particular area of the pasture.

Once your done with the walk, take the time to study the information you've gleaned from your pasture. Ask yourself if the pasture is dominated by unproductive grasses such as common wiregrass, annual grass species, timothy, or Kentucky bluegrass? Timothy and Kentucky bluegrass can be useful in early and late spring, but are very unproductive in the summer months and pastures with these species will need to be supplemented with more productive species. Does the pasture have a high concentration of broadleaf weeds or other forbs or shrubby species? If this is the case, your planted forage species need management help to compete against the weedy species. Check your pasture fertility status as you may have too low a soil pH or too low a soil test level of phosphorus or potassium.

If your notes and checklist show you that you're not satisfied with your pasture potential, it may be the year to consider a late summer, early fall renovation with new forage grasses or legumes. If this is the case, before even deciding what species and varieties to supplement your pasture with, go back into the pasture and do a thorough job of testing your soil's fertility levels. If you're not sure how, call your local county Extension agent or contact your nutrient management consultant for the proper way to soil test. Next week, I'll cover the pros and cons of the forage species available to us in the mid-Atlantic region.



**Reasons for Yellowing in Soybeans** - *Richard W. Taylor, Extension Agronomist; [rtaylor@udel.edu](mailto:rtaylor@udel.edu), Carl Davis, Extension Agricultural Agent, New Castle County, [cpdavis@udel.edu](mailto:cpdavis@udel.edu), and Derby Walker, Extension Agricultural Agent, Sussex County, [derby@udel.edu](mailto:derby@udel.edu)*

In the past week or two, we've noticed quite a number of fields with yellow or chlorotic soybeans. In most cases, the yellowing occurred in either small areas scattered across the field or in strips across the field. There are a number of possible explanations for the appearance of these symptoms.

First, many of these areas were due to potassium (K) deficiency. Generally, this occurs on the lower leaves of the crop although in severe cases the entire plant can be affected. The symptoms begin as yellowing on the margins of the leaflets and progress until the margins become necrotic. It can be confused with drought injury that also begins on the leaflet margins although in the case of drought it is usually seen only on one edge of the leaflet (imagine the leaflet split into two halves by the center vein). Both of these causes of yellowing beans can occur in small areas, but K deficiency can be confirmed with a soil or tissue test. Between the two causes, K deficiency is also the likely cause if regular (man-made) patterns appear in the field. For K deficiency, application

of muriate of potash (0-0-60) can help increase yields. We have been recommending that in addition to potash you also add 1 lb/A boron if boron has not been applied earlier.

Another nutrient that can cause yellowing in soybeans is manganese (Mn). Often, Mn deficiency is caused by over liming low native Mn soils. Probably half the fields we've looked at showed Mn deficiency symptoms. The symptom is generally seen as interveinal chlorosis that can, in severe instances, result in almost white leaflets. Symptoms are generally worse on the upper portions of the plant. Yield reductions can be severe, but also can be minimized by foliar application of 1 to 2 lbs Mn/A. It is best to apply Mn when symptoms first appear, but even at flowering foliar Mn can help increase yields. Symptoms can be in irregular areas, usually relating to the underlying soil type, or can be in regular patterns related to the over application of liming materials.

Soil compaction can also cause yellowing and stunted plants. In these cases, the stunted beans have a very short taproot.

Another explanation of yellowing soybeans especially in some areas in southern Delaware is from excessive moisture or standing water after the intense rains of the past week. Soybeans are somewhat tolerant of flooding conditions even during bloom [Please refer to an article in *Agronomy Journal* (vol. 77:551-554) for more details].

There also are several diseases that can lead to yellowing in soybeans. Charcoal rot often appears around flowering in sandy drought-prone areas of fields. Usually there is no regular pattern other than soil type changes. The disease progresses to the point that plants die and the tips bend over in the shape of a shepherd's crook. Sudden Death Syndrome (SDS) was first identified in Delaware soybean fields last year (reference WCU, Volume 9, Issue 18, July 2, 2001). This begins as interveinal chlorosis with very dark green veins and rapidly progresses up the plant until the entire

plant dies. Finally, soybean cyst nematodes can cause soybeans to turn yellow and perform poorly. Keep in mind that Roundup Ready soybeans carry only race 3 resistance and in Delaware many fields are infested with other than race 3.

Soybean cyst nematodes infected plants have fewer nitrogen fixing nodules, and exhibit symptoms similar to potassium and manganese deficiencies.

Lastly, spider mites can cause plants to turn yellow. This often begins along field edges and progresses out into fields, but sometimes in hot, dry conditions as we had a week or more ago whole fields can be infested with mites. The soybean plants often show stunting and if plants are examined carefully you can see webs or the small mites moving around on the plants. A hand lens or magnifying glass should be used to determine if live mites are present on the leaves. In general, mites are found on the undersurface of leaves. You can often find colonies of mites located near a leaf vein or at the base of the leaf. The presence of mite damaged leaves does not mean that mites are still actively feeding. In many cases, damage has occurred, but mite populations have been eliminated by predators and diseases. The mite damaged plants that I saw this week were mite free (no mites and no mite eggs) which indicates that natural controls are working. Local weather has a major impact on the effectiveness of the predators and disease causing agents. If mite populations are crashing normally then no sprays will be needed.

We've probably missed a few other explanations, but this list should give you a feel for some of the causes of soybean yellowing.



### **Accumulating Pasture for Late Fall and Early Winter Grazing** - *Richard W. Taylor, Extension Agronomist; [rtaylor@udel.edu](mailto:rtaylor@udel.edu)*

In last week's Weekly Crop Update, I mentioned that this is the time to begin fall accumulation of forage for late-fall and winter grazing. Why use fall accumulation to extend the growing season? Certain species, especially tall fescue, are very palatable and highly digestible when fall accumulated. Fescue accumulates soluble sugars in the fall so palatability is high and forage quality loss after frost is less with this species than with any of the other forages.

The grass most suited to this technique is Kentucky 31 tall fescue although orchardgrass can be used with some success. Dr. Ed Jones et al. in Bulletin No. A-111 from Delaware State University found that if both grasses are used for fall accumulation, you should first graze (November and December) the orchardgrass and follow that with grazing tall fescue since fescue maintains soluble sugars and other quality parameters much longer than orchardgrass. They were able to change the percentage utilization of the grasses so 8, 10, and 7 percent of the orchardgrass production was available in November, December, and January, respectively. For the Kentucky 31 tall fescue, use shifted to 3, 13, 11, and 7 percent for December, January, February, and March, respectively. Late-summer and fall accumulation of fescue and orchardgrass can significantly increase the number of grazing days per acre, especially for beef and dry dairy cows.

The choice of which pasture to accumulate forage on is important since animals will be on the pasture during the winter months when evapotranspiration is at its lowest. Another important consideration is whether the pasture contains a high proportion of summer annual grasses such as crabgrass, foxtail, and fall panicum. Nitrogen (N) efficiency will decline dramatically if these annual grasses are present since they will leave little for the tall fescue or orchardgrass to use. In addition, summer annuals

will die at the first frost and result in much lower feed value as well as tie-up N by immobilization in the decaying weeds. Therefore, fall accumulation should take place on the most vigorous fescue or orchardgrass sods.

What concerns are important with regards to the endophyte fungus that can infect tall fescue and cause poor animal performance? The toxin that is produced with endophyte infestation is concentrated in the seedheads and stems with less in fescue leaves. Fall consumed tall fescue therefore is lower in the toxin than fescue produced in the spring and early summer.

Other factors that you should consider are discussed below. The date of the last summer clipping has been shown to impact the crude protein level of the accumulated fescue. The later the last clipping up to mid-August the higher the percent crude protein in the accumulated forage, but also the lower the final yield of biomass although the difference in forage availability between a early July cut and a mid-Aug. cut were minimal (about 14 percent).

Nitrogen should be applied when the stockpiling period is initiated. Later N applications are less effective in increasing biomass although later applications were more effective in boosting crude protein content and reducing the percentage of acid detergent fiber. The higher the N application rate (up to about 100 lb N/A), the greater the crude protein content in forage from November through February and the lower the percent acid detergent fiber.

Keep in mind that stockpiled tall fescue is likely to be deficient in some nutrients and this effect worsens as the winter progresses. In addition, heavy snowfalls can prevent animals from being able to reach the forage, so feed supplementation may be needed. Always be prepared to supplement, energy, protein, and minerals in late winter or early spring and especially during harsh winters.

My thanks and acknowledgement to publication number AGF-023, "Stockpiling Tall Fescue for Winter Grazing" by Penrose et al. from Ohio State University Extension and to Dr. Ed Jones et al. in Bulletin No. A-111 from Delaware State University.



**Corn Irrigation** - *Richard W. Taylor, Extension Agronomist; [rtaylor@udel.edu](mailto:rtaylor@udel.edu)*

For those growers irrigating corn, irrigation procedures should be monitored closely from now through the end of the season. In particular, irrigated corn fields located in the southern areas of Delaware and Maryland received a rather substantial quantity of rain this past week, and could receive even more over the coming weekend. These fields are at or beyond field capacity throughout the corn rooting zone. Much of the corn I have looked at recently is in the soft dough to early dent stage. At this growth stage, the amount of water used by the crop per day has begun to decline rapidly from the maximum daily use rate of about a third of an inch per day. This is especially true for short-season corn hybrids. To facilitate drydown in corn for early harvest, the frequency of irrigation and amount of irrigation applied per week needs to be reduced as the water use rate of corn declines. In many cases and especially for the short-season hybrids, the degree of maturity combined with field capacity throughout the rooting depth of the corn means that it is time to cease irrigation altogether. No matter which type of hybrid you have, take a look at the water-use rate curves available in our Cooperative Bulletin No. 13 entitled "Irrigated Corn Production: A Guide to Profitable High Yields". These curves can help you plan the rest of the irrigation season for long-season hybrids.



**Grain Marketing Highlights** - Carl German,  
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### **August Crop Report Provides Stability to Commodity Prices**

USDA's August 10th crop size estimates, although reported to be no surprise for commodity traders, has placed the corn and soybean markets on a solid footing as we begin to look toward harvest of the 2001 crop. The August 10th report was released based upon August 1st conditions. This means that traders will now turn their attention to considering what the yield impact might be from the deteriorating crop conditions that prevailed for the two weeks just prior to the release of the report. Current indications are that grain traders and analysts are anticipating further reductions in production estimates for the 2001 U.S. corn and soybean crops. This view could result in corn and soybean prices rallying further as we head into harvest.

The U.S. 2001 corn crop is now projected at 9.266 billion bushels with ending stocks estimated at 1.459 billion bushels, 369 million bushels less than last month's ending stocks estimate. The new supply and demand estimate has increased the average farm price that USDA is projecting for this year's crop, now placed at \$1.90 to \$2.30 per bushel. Private analysts are reporting the new supply and demand estimates equate to, approximately, 30 cent higher season average U.S. corn prices.

U.S. soybean production was placed at 2.876 billion bushels, as compared to 2.935 last month. Ending stocks for soybeans were reduced 45 million bushels from last month's report, now projected at 300 million bushels. The change in the supply and demand estimates prompted USDA to increase their projection for season average prices of soybeans by 35 cents per bushel, now estimated at \$4.35 to \$5.35 per bushel.

The most recent weekly crop conditions report released on Monday, August 13th were down for both corn and soybeans, at 57% good/excellent for

corn and 54% good/excellent for soybeans. These are the lowest ratings reported for the season. Profit taking and a review of the effect on yields from recent rains have the markets taking a breather this morning. A midwest crop tour, which is currently underway, will help to further define corn and soybean price direction for the remainder of this week.



<b>Weather Summary</b>	
<b>Week of August 9 to August 15, 2001</b>	
<b>Rainfall:</b>	8.79 inches total
	1.00 inches: August 10
	4.75 inches: August 11
	0.15 inches: August 12
	2.88 inches: August 13
	0.01 inches: August 14
Readings taken for the previous 24 hours at 8 a.m.	
<b>Air Temperature:</b>	
	Highs Ranged from 95°F on August 9 to 79°F on August 13.
	Lows Ranged from 76°F on August 9 to 61°F on August 16.
<b>Soil Temperature:</b>	
	82°F average for the week.
(Soil temperature taken at a 2 inch depth, under sod)	

Web Address for the U of D Research & Education Center:  
<http://www.rec.udel.edu>

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